

JOURNAL
of the
Society for Psychical Research

VOLUME 37 No. 675 May-June 1953



ON CAUSATION IN PSI PHENOMENA

BY A. F. PARKER-RHODES

So far as physical science knows, the laws of nature with which it deals are statistical laws ; they arise out of the predictable regularities in the behaviour of large aggregates of particles and atoms, which atoms do not themselves obey these laws. It cannot be said that they obey no laws, but it seems to be empirically established that whatever laws they do obey are of a different order from those governing gross matter, and they are in fact at present being ignored in physics, which goes on the assumption that the behaviour of elementary particles as individuals can be treated as random'. Because of the statistical structure of the laws of nature, as we know them, they are not absolute ; there is a finite probability for any finite departure from expectation, though in ordinary experience this probability is so small for so minute a departure that it can only be disregarded. But some phenomena depend on the behaviour of quite small numbers of atoms, and for these the probabilities are less prohibitive ; and the universe is after all very large and in it even the oddest things may occasionally happen. I have found it helpful to have names for the two kinds of events ; the expected average events I call *physis* and the unexpected deviations I call *thauma*. In many ways *physis* and *thauma* can be regarded as opposites ; but of course *physis* is always and everywhere dominant in the world, and we must not allow the name to trick us into thinking of *thauma* as a kind of demon which can be brought in to work miracles whenever we are at a loss for an explanation.

The field in which *thauma* may have some importance is the field of molecular events, in which very few quanta may be involved. These events we associate mainly with atomic physics, but that is not the only place where they may be accessible to our observation. It has been proved that certain moths, for example,

have so acute a sense of smell that they can detect their mates through less than a dozen molecules of the olfactive secretion. Again, some cells of the human retina can respond under certain conditions to a single quantum of light of the appropriate frequency ; of course, such responses do not get through to consciousness, else we should be always 'seeing stars', but a conscious impression may rest on no more than 6 quanta under optimal conditions. There is therefore more than a possibility that events of this order of magnitude underly some of our conscious experiences and thoughts. If so, there must be some means whereby we can distinguish between thauma and physis, at least in a rough-and-ready way, lest we could not form a coherent picture of the physical world, just as we could not see properly if every quantum were registered in consciousness. In fact, we must have some sort of 'thaumatic sense', perhaps a special emotional attitude to thaumatic events or queer coincidences.

In all organisms great importance attaches to metastable states ; these are states of a physical system such that each of two or more possible changes in the system is equally probable. If a little ball is balanced on top of a big ball, exactly, there is no telling in which direction it will roll off ; no energy or entropy difference exists between one way and another. Metastable states play a more important part in animals than in plants, and are supposed to be especially important in the central nervous system ; the smaller the difference between one such state and the neighbouring states to which it might change, the more complex and various are the different modes of behaviour which can be determined with the least possible change in free energy. The limit is reached when the steps involved are single-quantum differences, and it may be that parts of the human cortex are near that limit. In that case some of our actions may well be determined by events outside the scope of statistical causation. For such an action no amount of introspection will reveal a cause either outside the actor or in his own organism ; it will appear spontaneous, and will be called an act of free will. There is, subjectively, only one kind of free-will experience, and it is clear that any statistically random event, if it is registered in consciousness, will seem to belong to this category ; it will be a 'freely willed thought'. That we may be deceived, in this as in other matters, and imagine an action to be spontaneous when it is really induced (as we often do) or contrariwise, does not invalidate the distinction that we do make subjectively.

From our experience of induced actions we form a concept of *causality* ; when we apply this objectively to natural phenomena it becomes the theory of determinism which underlies the greater

part of our science. Similarly, from our experience of spontaneous actions we deduce the concept of *will*, and when this is applied objectively it becomes the theory of animism. Since statistically random events are of no importance in the behaviour of human-scale objects (except, perhaps, some of the higher animals) animism is not a very useful theory, and little by little we have learnt to reject it altogether from science. Nevertheless, both theories give us an 'order of nature' of a sort; determinism deals with efficient causes, and animism with final causes. I shall call the two orders of nature Efficient and Final also; we must remember that they are merely two ways, unequally useful, of looking at a single object.

The two kinds of causation cannot be empirically distinguished. This is very evident in biology: certain moths have patterns on their wings which make them very inconspicuous on their usual backgrounds, and experiment and observation show us that there is here a causal connexion; but should we express this by saying that the camouflage has come about *through* the protection which it affords, or that it is evolved *for the sake of* the protection? The formulation in terms of efficient cause is preferred in biology because it is generally more useful and because it links biological facts with the facts of other sciences, but final causes cannot logically be excluded, and must not be altogether ignored in practical applications. When training a sheep dog, for example, it is much simpler and more effective to be an animist than to be a behaviourist. Empirically, however, both interpretations are equally valid, and both must be included in the term 'causation'.

Now psi phenomena, as studied in statistical experiments, involve acts of will; this implies, as we have seen, that we may have to do with statistically random events, which are unconnected with one another or with other events by statistical causation. Such events have no efficient cause, but they have final causes; in a typical experiment, the calls of the subject are made with the *purpose* of guessing a given target, even if this means merely producing a call without any previous thought at all. If, however, we take such events in large numbers, they become amenable to analysis in the efficient order and so fall within the scope of science. They do so, however, as exceptions to a rule; they are manifestations of thauma.

Elementary dynamics tells us that a body of liquid has a level surface; but when we observe the sea, which is such a body, we find that it has an uneven surface. It does not obey the rules. We can easily prove a causal connexion between looking at the sea (not a mill-pond, nor a teacup) and seeing waves; it is not

so easy to discover the cause of the waves themselves. Parapsychological research is still at this stage ; we know that if we visit the seaside we shall often (not always) see the waves, but we have no idea where the waves come from. It is generally supposed that the phenomena are produced by the experimental procedure (as is assumed in all scientific experiments) ; that is, that the observation of the waves is produced by visiting the seaside. My suggestion is that our visiting the seaside is produced by the observation of waves : that is, that the non-random correlation of guesses with targets is the cause of our performing the experiments. If we take it as an efficient cause, it sounds absurd (it does not follow that it *is* absurd) ; it makes much better sense if we regard it as a final cause. The experiments, after all, are done for the sake of the results. And as we have seen that the underlying events fit into the final order better than into the efficient order, we must expect that they are susceptible to final causes rather than to efficient ones. In other words, the results may be expected to respond in some way to the intentions of the experimenter ; this is in accord with the observation that different experimenters tend to get different sorts of results.

One difficulty about this analysis is that if psi phenomena are correctly regarded as events of the final order, they are events on a larger scale than atomic collisions, and may conceivably come into conflict with events of the efficient order ; this would be hard to reconcile with the fundamental idea that these two orders are merely two ways of looking at the same world of nature. One may perhaps evade the difficulty, in the case of psychognostic phenomena, by claiming that the only events directly concerned are statistically random single-quantum transitions in some part of the brain, and thus outside the scope of efficient causation ; but this plea will not hold for psychokinesis. If in fact anti-statistical throws of dice can be caused by a mere effort of mind on the part of the subject, then either the causation is efficient and only indirectly final (which means that the effect is produced by an actual transfer of energy, which encounters all the difficulties of the 'radio' theory of telepathy), or else final causation is interfering with the results which we should expect to follow from efficient causation alone. A die is, after all, a gross body, and subject to the laws of efficient causation governing all such bodies. The obvious way out of the difficulty is to reverse the direction of causation, and assert that the non-random results are the cause of the performing of the experiment. Of course, this only 'makes sense' if we are considering final causes, just as in card-guessing experiments.

We are necessarily prejudiced against the idea that final causes should actually *work*: it looks like magic. It is, however, possible to suggest how they might work without 'magic'. The thaumatic sense which we have, and by which we can distinguish the ordinary from the queer, the reliable from the freakish, might enable us to know beforehand when and where thaumatic events were impending, and so guide a sensitive parapsychologist towards a statistically biased result. It will be objected that this brings in precognition (at least), which is just as 'magical' as any of the other phenomena. It is very much a question of taste, whether one finds it more difficult to believe in precognition or in thaumaturgy; if one starts, as I do, from a philosophy which insists on the universal coherence of things, thaumaturgy is much harder to swallow than precognition but if one is, for example, a mechanical determinist, the time-sequence is sacrosanct whereas miracles may always be explained away by further research.

In any case, the basic arguments against accepting precognition are thermodynamic ones, resting on the Second Law; apart from this law and its corollaries there is no reason why time should have a direction any more than space has, and so no reason to expect causes always to lie on one side (called the past) of their effects. But thaumatic phenomena are by definition outside the scope of all such statistical laws; neither do these laws govern the relations of final causality, if these concern events at the atomic level. Indeed, the whole category of space-time is a construct built upon physical sensory experience, and as such belongs to the efficient order and not to the final order. It is therefore hard to see how temporal and spatial relations can enter into the structure of the latter order at all. Precognition therefore ought not to surprise us. It is probably meaningless to ask how it happens: just as it is probably meaningless to ask *why* the physical universe possesses space-time properties.

These considerations are not easily acceptable. They involve us in a great extension of our ideas of causation, and a willingness to make use of concepts which are generally excluded from scientific enquiry; but they do not involve any departure from the empirical and experimental method, nor is it yet proved that they will involve any contradiction with better-established fields of knowledge. In any case, some reorientation is evidently demanded by the parapsychological evidence, and it is better to proceed step by step than to revert at one bound to animism or spiritism, from which science has been so long in freeing itself.

A DREAM WITH APPARENT PARANORMAL
ELEMENTS RELATING TO TWO SEPARATE
BUT PARALLEL FUTURE EVENTS

BY JESSIE BLUNDUN, M.B., B.S.

THE dream or dreams on the night of November 11-12 (or possibly 10-11) 1952 were recorded by the dreamer, Miss Diana H. Sefton,¹ a member of the Society, on November 21 in response to a request from a friend to whom D.H.S., in a letter dated November 19, had outlined the main facts of the dream. In reply to further inquiries some obscure points were elucidated in letters dated November 27 and December 4.

SCENE ONE

(no particular time or place)

I am looking at a professional journal like the *Lancet* in format (but not actually the *Lancet*). On one of the last pages, halfway down, are notices of marriage. One of these is of William Wayne. I am aware the girl is Helen but the name is given as Jean Campbell. There is a photograph of the two but I cannot remember details.

Then I am looking at another similar journal where the same announcement is made. There is another photograph and the girl has dark and I think curly hair. She has on her dress a bunch of white flowers and is wearing spectacles. She is on the left of the picture [i.e. viewer's left. This position was confirmed by a rough sketch accompanying the letter written on November 27]. The photograph is different from the earlier one.

SCENE TWO

(apparently a few days later at the University in X)

Many people in the University as well as myself have read the announcement of the marriage and we all talk about it and wonder William has not told us personally. We tease him about it.

SCENE THREE

(later)

William comes dashing down from his room which is in a lofty house with bachelor flats. We ask him why he is still there and has not brought his wife to live with him. (It is implied that she is still in L—, Helen's town.)

Note by the Dreamer: I am not sure of the relationship of Scenes II and III. Like most dreams it was rather scrappy and unco-ordinated and most of the actors unidentified.

¹ All the names in this account are pseudonyms.

EVENTS FOLLOWING THE DREAM

On November 11, 1952, D.H.S.'s great-aunt died: her second name had been Jean. (D.H.S. did not hear of her death until November 18.)

D.H.S. related the dream to its 'hero', William, a friend of many years' standing, on the morning of November 13.¹ They both laughed about it and he asked who Jean Campbell was. She explained that she was a fellow-student of hers at Oxford.

On the afternoon of November 13 D.H.S. read in *The Times* an announcement of the engagement of the Rev. George Edward Farmary to Helen Tillett of Hong Kong. Although she had not been a close friend of the dreamer there was a particular reason why her engagement should interest D.H.S. (see below). At first she did not connect the dream with the engagement, but later that night, while travelling to Ireland, it occurred to her that William's father had been a farmer who later took orders and became a parson and that he might symbolize 'the Rev. George Farmary' who was marrying Helen.

In addition, the dream Helen was also Jean Campbell, and the dreamer realized there must be an associative link between the names. She confirmed this while in Ireland by consulting a list of students of her college at Oxford and found that, as she had thought, there had been two other Tilletts, mother and daughter, both doctors. Hélène Tillett had been at 'St Helen's College' with D.H.S., Jean Campbell, and Helen Tillett, and her mother was known as Mrs Campbell Tillett (a Miss Campbell who had married a Tillett).

D.H.S. considered that while her dream seemed to show a paranormal knowledge of Helen Tillett's engagement, it was rather obscure.

On the morning of November 18 she arrived back from Ireland and collected her copies of *The Times*, which she had not seen in Ireland. On November 20, in the course of reading these newspapers, she saw in the issue of November 15 the announcement of a marriage on November 14 of two Chinese doctors from Hong Kong. The bride was a close friend of hers, and D.H.S. was much surprised that no hint had been given of the approaching wedding, as would have been expected. (Later she was told that the matter had been intentionally kept secret.) The bridegroom was known to her as 'Willie'. These Chinese doctors lived in a tall block of flats similar to those of the dream (but not confined to bachelors).

Early in January 1953 the dreamer saw an 'official' photograph

¹ This is confirmed by a statement written by William Wayne dated November 21, 1952.

of the Chinese wedding, showing the bride on the left of the picture, i.e. on the bridegroom's right, which is very unusual and contrary to Western custom. She was wearing a bunch of white flowers. Both these details agreed with the dream, as did the bride's dark curly hair and spectacles. Actually the flowers were purple orchids but they appeared white in the picture.

POSSIBLE PARANORMAL ELEMENTS IN THE DREAM

1. A dream of a secret wedding is followed by unexpected news of an engagement and a secret wedding. The two couples are linked by a connexion with Hong Kong, a place in which D.H.S. had an emotional interest (see below).
2. Plays on names¹ and associative links point to a knowledge of the identity of the couples by the dreamer.
3. There were two announcements in journals in the dream and two announcements in separate issues of *The Times*. The fact that, in the dream, the format of the journals was that of the *Lancet* points to an awareness of medical interests; the Chinese couple were doctors and there was a medical aspect behind the name Tillett of the engagement announcement. Moreover, earlier in the year the dreamer and the Chinese woman doctor had met in Oxford and looked through copies of the *Lancet* and had noticed the column announcing Births, Deaths, and Marriages. This suggests an awareness of the identity of the Chinese bride.
4. The dream photograph showed a bride with dark curly hair and spectacles, which would only fit the Chinese bride among the women mentioned. She was standing on the *right* of the bridegroom² and wearing a bunch of white flowers, and these details were noticed in the actual photograph taken later. It should be noted that the flowers in the dream picture corresponded to the dreamer's visual impression when she later saw the wedding photograph. It has been noted before (Dunne *et al.*) that what is precognized appears to be the subsequent sensory impression of the dreamer and not the later knowledge of the facts.
5. The block of dream flats resembled the block of flats in which the Chinese doctors lived.
6. The introduction of the name of the dreamer's great-aunt, whose death the same or the preceding night was unknown to her,

¹ The pseudonyms adopted in this account have been carefully chosen to correspond as nearly as possible, in common use or rarity, and in other respects, with the real names, so that the associations are analagous and lead to the same conclusions as those drawn from the originals.

² D.H.S. states that she did not realize that the positions were unusual until this was pointed out to her. This was after she had recorded her dream on November 21.

suggests an unconscious knowledge of the fact. The temporal conjunction of the three events here is noteworthy. The death of a kinswoman, in itself a matter of emotional importance, may have provided a stimulus to a train of associations linking up with an engagement and a marriage, both to be announced shortly and both of conscious, and, as it appears, of unconscious interest to the dreamer. A large number of spontaneous psi phenomena are manifestly concerned with the subject of death; it may be that close scrutiny and analysis of apparently 'neutral' occurrences might reveal hidden references to this momentous fact.

What was the nature of the paranormal element of this dream? Was it precognitive or telepathic? Or is there no value in making a distinction between these two modes of awareness? D.H.S. has had other experiences apparently involving precognition or telepathy both in dreams, and, in some cases, in a half-waking or hypnagogic state. In a case such as this the parties to the engagement and the marriage may be presupposed to be deeply involved emotionally and a 'sensitive' may become aware of these emotions.

One may ask whether it is not probable that the dreamer's own emotions may not be even more important, since a dream is essentially an intimate and personal construction. This leads to further considerations.

THE DREAM SYMBOLISM AND ITS MEANING FOR THIS DREAMER

If a dream is fully unravelled it is almost certain to reveal personal and intimate details important to the dreamer but which may not have been entirely clear to him hitherto. We are indebted to the dreamer for supplying the necessary information.

All dreams seem to express a conflict or a wish which is more or less disguised, and where psi elements are manifested it is reasonable to wonder whether the emotions concerned are not intensified. In this case the wish or conflict (or both) would be of more than usual strength and the disguise subtle, because biologically love and marriage are of supreme importance to a young, unmarried woman, no matter how brilliant a career seems to lie before her.

The first step in finding a clue to the understanding of the dream is to see whether the dreamer herself can be distinguished, apart from being an onlooker. She has always signed herself 'Diana H. Sefton' and it seems pertinent to ask what 'H' stands for. Without much surprise we learn that it is Helen. We have already noted that most of the women in this account were fellow-students at 'St Helen's College'. The affective bonds formed

between young people thrown together at an impressionable age, together with the curious associative link between the name of the Alma Mater and the other names concerned, appear to have made it possible for the dream mind to draw together threads from their various fortunes to form a strand of extreme subtlety which leads to the dreamer's unexpressed preoccupations.

Here we might make the facile assumption that the dreamer 'Helen' is in love with the 'hero' of the dream, William, but represses this love because his affections are given to another Helen. She, however, denies this, and we recall that William's dream bride has another name—Jean Campbell. Jean was the second name of the dreamer's great-aunt who died on November 11. This lady had married, when she was about the same age as the dreamer, a man who lodged in the same house as herself, and this reminds us that the Chinese doctors both lodged in the same block of flats. Campbell leads to an association with Mrs Campbell Tillett, Hélène Tillett, and so to Helen Tillett. The latter had gone to Hong Kong to take up a post which D.H.S. herself might have had but decided against. If, therefore, the dreamer identifies herself with Helen Tillett (as well as with the other Helens and Jeans, as is the way in dream associations), she cannot be supposed to be in love with Helen Tillett's fiancé, because she has never met him. Nor is there ground for supposing her to be in love with the Chinese doctor 'Willie'. But both these men are connected with Hong Kong, and it is again without much surprise that on inquiry we learn from her that she has, in fact, a man friend in Hong Kong who is significant in her life.

His first (but unused) name is Edward, which is also the Rev. G. E. Farmary's second name: he was also linked with William, having been a fellow-student at the same college, and can therefore be very well disguised as William to hide the latent content of the dream. Two years ago he returned to England for a visit but was recalled suddenly, leaving the situation still indefinite between them. When the dreamer heard that Helen Tillett had sailed for Hong Kong about the same time (to fill the very post Edward had wished D.H.S. to take) she imagined they would meet on the same boat, become friends, fall in love, and marry. This jealous fantasy was disturbing and was immediately suppressed, but it is understandable that she is now particularly interested in hearing of Helen Tillett's engagement to another man. Distance had played a part in separating D.H.S. and her Edward, but in Helen Tillett's case distance had not proved an obstacle and she had become engaged, although her fiancé was in England while she remained in Hong Kong.

It is as though the wish were being expressed 'whether lovers are at opposite ends of the earth or in daily contact in the same house, marriage comes to them in the end. May the same happy outcome be mine'!

An interesting feature of the dream is the use of second names providing an elaborate disguise. It suggests conflict as though the real Diana were not sure of her feelings; although her second self, Helen, might wish to marry Edward, a rather shadowy figure, Diana awake had doubts. Some of her observations in real life support this interpretation.

D.H.S. had at one time done some ESP experiments with her friend Edward. She had, at the time of the dream, fairly recently begun a series of ESP experiments with a member of the research team of the S.P.R. whose surname, a rather uncommon one, is identical with that of Edward. It may be that this coincidence was an additional factor stimulating both her dream mind and her psi faculties to produce this very intricate and subtle dream.

ESP EXPERIMENTS WITH CLOCK CARDS

A CORRECTION

WE are grateful to Mr J. Fraser Nicol for pointing out some slips in our paper published in the January-February issue of this *Journal*. In Tables 2 and 4 and Appendix 3, each of the t values for the seven classes of Divergence is to be regarded as a separate estimate of the dispersion. The Chi-square values in these tables should read:

Table 4 (16 percipients)	Chi-square = 16.521, $P = 0.011$
„ (SM)	„ = 34.325, $P = 5.1 \times 10^{-6}$
Appendix 3	„ = 25.874, $P = 2.4 \times 10^{-4}$

The values for Chi-square in Appendix 4 are unchanged, but the t values given beneath them should be deleted together with the following sentence (p. 14): 'As values of P . . . estimates of significance.' These amendments do not of course, invalidate any of the conclusions drawn in the paper.

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REVIEWS

NATURE, MIND AND DEATH. By C. J. Ducasse. La Salle, Illinois, Open Court Publishing Company, 1951. (The Paul Carus Lectures, Eighth Series, 1949.) 514 pp. \$4.50

Professor Ducasse's book will interest all serious students of psychical research. It seeks to analyze the mind-body relation in order to consider the possibility of a mind's surviving the death of its body. This enterprise is conducted with great thoroughness and the book, though long and often difficult, is clearly written and sensibly planned.

Part IV, entitled 'The Mind-body Relation and the Possibility of a Life after Death', the last and shortest section of the book, is worth reading by anyone who is daunted by the earlier and more technically philosophical parts. Professor Ducasse holds, however, (and he is surely right), that this final question can only be properly understood after a careful analysis of the terms 'mind' and 'body'.

Professor Ducasse's approach throughout is primarily philosophical. That is to say, his concern is not primarily to determine whether survival occurs but to discuss the logical possibility of its occurring. His own final view is that survival *is* conceivable and that there is some *prima facie* evidence for it. He ends by sketching some alternative forms it might take and is himself attracted to a form of reincarnation theory.

Clearly any theory which is to admit of 'survival' must be dualist. For we know that the body does not survive. If anything is to survive it must be distinct and separable from the body and yet be capable of intimate relationship with it. (A possible exception is provided by the doctrine of 'the resurrection of the body' which, curiously enough, Professor Ducasse neglects). But what is there that *could* survive? And how is it related to the body? And would its survival be in any sense the *person's own* survival? These are the obvious questions and Professor Ducasse faces them squarely.

Briefly, he accepts the common-sense view that mind and body are 'substances' which interact and tries to render it more precise. The more sophisticated version that emerges is less commonsensical than it looked like being—as commonly happens when commonsense beliefs are edited by philosophers. Thus a 'substance' for Professor Ducasse is 'a set of dispositional properties and relations of properties'. Examples of material properties are malleableness, fusibility, solubility, brittleness; of mental properties aptitudes, dispositions, proclivities, tastes, powers. Such

properties may be analyzed into 'if . . . then' connections between *events*, physical or psychical as the case may be. A mind will have (or will consist in) psycho-physical properties, such as will-power, physico-psychical properties, such as the power to respond by sensation to physical stimuli and psycho-psychical properties, such as imagination or memory. Similarly a material substance will have physico-psychical, psycho-physical and physico-physical properties. Professor Ducasse suggests that his distinction between 'physico-physical' and 'psycho-psychical' properties represents what Locke was after in his doctrine of 'primary and secondary qualities'. Indeed his whole scheme may be thought of as a kind of revised Lockeanism. Thus he regards sensations as mental events caused by physical events which are changes in material objects. He seeks to avoid Locke's objectionable 'something I know not what' by his dispositional analysis of substance (losing thereby some of Locke's commonsense appeal). But he retains a causal theory of perception.

We are prompted to ask (following Berkeley) how on this view we can know what physical events are like, since *ex hypothesi* we have no experience of them (in Professor Ducasse's language, 'do not intuit them'). He answers that a physical event is 'a non-intuited event capable of causing a given specific sort of intuited event [viz. a sensation], for which no other cause could be found amongst our intuitions'. Berkeley used a similar argument to establish God as the 'non-intuited cause' of his sensations; but *he* could claim to have a 'notion' of God as infinite spirit, derived from his awareness of himself as a finite spirit. However, this line of argument is not open to Professor Ducasse, and if, as seems to be intended, his 'non-intuited cause' is known to us *simply* as 'something that causes . . .' one wonders whether he has really avoided Locke's 'unknowable somewhat'. Professor Ducasse would reply, I think, that his term 'physical event' gains its meaning from the use that can be made of it. For in association with the concepts of 'physical property' and 'physical substance' (which it serves to define) it can be used to predict future experiences. This amounts to saying that physical events, properties, and substances are 'real' in the same sense as protons and electrons.

It will have been noticed that the notion of causality is made to do a great deal of work—including some work that many philosophers since Hume have thought it unqualified for. Professor Ducasse is, of course, well aware of this and devotes five closely argued chapters to the subject. He holds that Hume's 'regularity theory' is mistaken and that what we mean in ordinary speech by 'the cause' of an event is 'the sole change which in a given

context precedes that event'. What this is we discover by experiment. He argues that it follows from his definition of 'cause' that the principle 'every event has a cause' is analytic. For, in order to say that an event had *no* cause, i.e. that *no* change preceded it, we should have at least to measure the passage of time, some 'clock' must tick. This, however, would be a change and, if the *sole* change, would itself be, by definition, the required cause.

Now, suppose we accept this view, can we use the principle as Professor Ducasse wants to, viz. to prove that there must exist non-intuited physical events to cause our sensations? For even if the universe contained nothing beyond our own intuitions it would still follow, on his reasoning, that *within this universe* every event had some cause. The principle of causality (understood as analytic) could afford us no warrant for inferring the existence of entities outside this universe.

Having analyzed 'mind', 'matter', and 'causality' Professor Ducasse turns to the mind-body relation. There is, he argues, nothing mysterious about this; for my body is, by definition, the body which responds directly to my volitions and stimulation of which directly causes sensations in me. (He qualifies this account to allow for the phenomena of PK and clairvoyance: indeed he suggests that volition and sensation may be special cases of them). So the mind-body relation simply *is* direct causal interaction. Events in the one directly cause events in the other.

This completes the preliminaries, and Professor Ducasse goes on to examine the case for and against survival and to sketch some forms it might possibly take.

The strongest arguments *against* survival, he thinks, are these:

- (1) That 'thought' or 'consciousness' is simply another name for subvocal speech or some other form of overt behaviour.
- (2) That mental processes, although not identical with physical processes, are nevertheless totally dependent upon them. This is strikingly suggested by the effects of head injuries.
- (3) That survival, to merit our interest, would need to entail the persistence not merely of consciousness but of personality. But it is hard to conceive of this in the absence of a body and of a physical environment.

Against (1) Professor Ducasse argues (as in his earlier critique of behaviourism, p. 242 ff) that 'introspection reveals that thinking is one thing and muttering quite another'. To suggest otherwise is simply tampering with language. Readers familiar with *The Concept of mind* will wish that Professor Ducasse had been able to consider Professor Ryle's subtler version of the theory he is here attacking.

Against (2) he argues that, strictly speaking, in the cases cited only, *bodily signs* of consciousness are lacking. They are lacking in sleep also; yet dreams occur. His reply to (3) is contained in his final chapter and will be considered later.

Professor Ducasse attributes the apparent force of the arguments against survival to a suppressed metaphysical assumption that 'to be real is to be material' and takes some pains to combat it. But I rather doubt whether materialism is the force it used to be. The materialist says, 'It *can't* be true'. The empiricist says, 'I don't see what it would be *like* for it to be true—and in any case, I see no reason for believing it'. The modern sceptic, I should have thought, is more likely to be an empiricist than a materialist.

If his arguments are accepted Professor Ducasse has now vindicated survival as a logical possibility. His chapter on the case for survival examines the empirical evidence (after an interesting digression on the psychological difficulty in accepting psi phenomena). This evidence comprises apparitions and 'mediumistic communications'. The whole issue is, as he confesses, complicated by the occurrence of such paranormal activities as telepathy, clairvoyance, and retrocognition, which make it peculiarly difficult to assess the evidence usually adduced for survival. Consequently, while admitting that 'there is strong *prima facie* evidence that in some instances *something* survives, which appears to be some part or some set of capacities of the mind whose body has died', he decides that 'nothing both definite and well-evidenced can yet be concluded concerning the actual, as distinct from the theoretical, possibility of survival'. A sober conclusion, with which we may well agree.

The greatest interest, however, attaches to Professor Ducasse's final chapter, in which he attempts to describe some forms which survival might conceivably take. They are:

- (1) The continuation of a single state of consciousness after death.
- (2) Survival as dream consciousness.
- (3) Survival as a reviewing of the memories of one's embodied life.
- (4) Dream consciousness together with creative mental activity.
- (5) A state differing from (2) and (4) by the addition of adventitious images which would resemble sensations in being caused externally (perhaps telepathically or clairvoyantly). If they were orderly they would constitute for the experient an 'external world'.
- (6) Transmigration. Professor Ducasse examines this hypothesis in some detail. The problem is to square it with

the facts of heredity and to show how rebirth could in any sense be personal. To meet the first difficulty he draws on a suggestion of McTaggart's, that a soul seeking rebirth would choose parents whose character resembled its own. But what about the second? To meet this Professor Ducasse develops Professor Broad's notion of a 'psychic factor' (*The Mind and its Place in Nature*, pp. 535 ff, 550, 651-3) and recommends a distinction between 'personality', i.e. *acquired* skills, habits, and memories, and 'individuality', i.e. *native* aptitudes, instincts, and proclivities. A man's 'individuality' would be reborn and through persistent striving some acquired traits might in future births become part of his 'individuality'. Between lives the 'individuality' would alone exist, enjoying some sort of dream consciousness, and 'communicators' would be such 'individualities' using temporarily (as Broad suggested) the 'bodily factor' of the medium.

Does this amount to personal survival? Professor Ducasse seems to think it does, though here, for once, I find his argument obscure. He cites the Buddha's doctrine that self-identity depends on gradualness of change and not on any part of us remaining unchanged; but his own suggestion implies that something—the 'individuality'—does persist unchanged. He argues that awareness of self-identity depends on *continuity* rather than on *comprehensiveness* of memory; but, since we have *no* memory of past lives, neither can here be in question. He seems to provide no clear answer to the pertinent challenge he quotes from Leibniz: 'Of what use would it be to you, sir, to become King of China on condition that you forgot what you have been? Would it not be the same as if God, at the same time he destroyed you, created a King in China?' The transmigration theory has not only to explain how we can survive death, but how we can survive birth.

I find it hard to conceive in what sense I should continue to be 'me', if I had either no body or a different one, and if I had no memories of my present life. Yet what survives must be, in some full sense, 'me' if the transmigration hypothesis is to satisfy, as Professor Ducasse claims it does, our demand that the injustices of this life should be redressed. He calls upon us to abandon crude retributive notions of justice and to look for compensation by a natural process. In this he follows authentic Buddhist teaching (from which, indeed, he diverges only in his occidental conviction that survival is to be desired). But however 'pure' our conception of justice, it at least requires that the one to whom amends are

made and the one who suffered in the first place should be the same person.

I have already emphasized that the primary concern of this book is theoretical. But it has to some extent a practical concern. Professor Ducasse is looking for a form of survival that would be *worth* believing in ; and he claims that his descriptions of possible forms of survival 'have the status of articles of legitimate, though optional, belief'. This takes us beyond the province of psychical research and introduces moral and religious considerations which it would, perhaps, be inappropriate to discuss here. It does, however, occur to me to wonder whether, *if* belief in survival is indeed legitimate in the absence of conclusive evidence, Professor Ducasse's summary rejection of theism as the product of wishful thinking (p. 448) may not be in need of revision.

Professor Ducasse quotes with approval Gardner Murphy's observation: 'When I ask myself whether I personally accept these objections [against survival] and repudiate the evidence for survival, I find myself answering that it is improbable that the issue has been correctly stated at all'. This book is a welcome contribution by a professional philosopher towards a clearer statement of it.

B. G. MITCHELL

THE STORY OF THE POLTERGEIST DOWN THE CENTURIES. By Hereward Carrington and Nandor Fodor. London, Rider, 1953. vii, 216 pp. 16s.

The two authors of this book make their contributions in separate 'Parts', but they make it clear that their viewpoints, if not identical, are at least in sympathetic agreement. Dr Carrington's first part is mainly historical, while Dr Fodor, in addition to providing further very interesting material, makes some suggestive theoretical contributions.

The longest section in Dr Carrington's part consists of a reprint, with additions to bring it up to date, of a 'bulletin' entitled *Historic Poltergeists* originally published in 1935 under the joint auspices of the American Psychical Research Institute and of the International Institute for Psychical Research in London. As reprinted this is a catalogue, preceded by a short introduction, of 375 typical poltergeist cases, ranging in date from 355 A.D. to 1949, with indication of the source of information and place of occurrence, together with a brief description of the chief phenomena. In the vast majority of cases these phenomena were 'never explained', though in a few cases fraud is indicated. The standard of evidence naturally varies greatly and is often far from high.

Nevertheless, the comparative similarity of the phenomena through the centuries and over large portions of the earth is very striking, and affords what might seem at first sight an almost overwhelming argument against the view that we are dealing only with trickery or with delusion based on tradition or psychic contagion. It is true that in the interesting table of geographical distribution given by Dr Carrington (p. 18) the overwhelming majority of the reported cases come from Great Britain, France, Germany, and the United States, but, as is pointed out, this may very probably be due to the greater readiness of chroniclers or (in modern times) the press to report such phenomena, and there can be little doubt that in many other parts of the world great numbers of similar cases have gone unrecorded.

This similarity through time and space also brings it about that the list provides little or no fresh knowledge of the actual nature of the phenomena. The poltergeists bang and thump, produce apports, make stones or other objects (often strangely warm) fall from the air or ceiling, break or move objects within a house (the movement often being such as to preclude ordinary throwing), and generally behave in a mischievous, tiresome, and alarming manner. The goings-on are usually such as to smack of childish teasing, naughtiness, or aggression, often with an unmistakably humorous flavour, while at the same time there are signs of intelligence or dexterity, as when knots are tied or untied or objects are arranged in patterns. Very occasionally there are useful apports (e.g. money appears in empty pockets) or there is speech, though (with exceedingly rare and doubtful exceptions) there is never any indication of a visible agent. Unlike 'physical' phenomena with mediums, the events often occur in bright daylight and at a considerable distance from the person (most often one at or about the age of puberty) with whom they so frequently seem to have some mysterious connexion. Nevertheless, there is an unmistakable resemblance in some respects to the physical phenomena of the seance room, and this resemblance perhaps does not strengthen the evidence, for there are today serious students of psychical research who have grave suspicions as to the genuineness of such phenomena—especially in view of the negative results of the S.P.R.'s handsome offer to mediums who could produce them under certain very reasonable experimental conditions. We are here confronted with the dilemma as to whether we should reject accounts of events which run so contrary to everyday experience and which fail to occur under test conditions, or whether we are to disbelieve a host of witnesses, many of whom are persons whose word would certainly be accepted on almost any other matter.

If we include poltergeist phenomena the number of such persons is enormously increased, and the authors at any rate seem convinced that many such phenomena are genuine, though they admit the fantastic nature of the recorded events when they say that 'nothing that is submitted in this book is believable' and quote a statement made by Dr Treviranus to Coleridge to the effect that 'I have seen what I would not have believed on your testimony, and what I cannot, therefore, expect you to believe on mine' (p. 136).

Besides the cases referred to in the historical survey, there are eight chapters devoted to a more detailed study of special cases. These include the 'classical' 'Phelps case' in a village in Connecticut in 1850-1, 'a poltergeist in Mauritius', 'a Jinn in Transylvania' investigated by the Hon. Everard Fielding, for many years Hon. Secretary of the S.P.R., the 'Saragossa Ghost' reported in *The Times* and other papers in 1934, the 'Bell Witch' of 1817-21, one of the rare cases which actually led to a 'murder' by a poltergeist, and the well-known 'Talking Mongoose'. There are two other recent cases which have a special interest in that they were examined personally by Dr Fodor, and in which emphasis is placed on psychological rather than on physical factors and in relation to which he develops his theoretical considerations.

As the authors state, comparatively little attention has hitherto been paid to the general psychological conditions of mediums, though a beginning was made by Dr J. H. Hyslop in 1911 and more recently by Dr John Layard in a paper in the S.P.R. *Proceedings* of 1944. In these two fresh cases Dr Fodor applies the methods and insights of psycho-analysis. In the first of them, which was investigated when he was Research Officer of the International Institute for Psychical Research in 1938, he discovered a rich fund of hysterical phenomena, depending perhaps ultimately upon the fact or fancy of a sexual attack in very early years and deriving their later impetus from conflicts concerning the patient's husband, against whom she had strong unconscious aggression, and upon the narcissistic satisfactions of the notoriety which the phenomena brought in their train. Self-strangulation, stigmata, functional blindness, vampire fantasies, aerophagy producing abdominal distention, fraudulent apports concealed cunningly on or in her person, all play a part in the exciting drama. As the findings took on an increasingly sexual tinge, the Institute closed the investigation, but truncated as it regrettably is, its story constitutes one of the most remarkable documents dealing with the borderland between psychiatry and psychical research. This case was originally presented to the Association for the Advancement of Psychotherapy in 1945 and is here reprinted from the *Journal of*

Clinical Psychopathology, together with a report of the ensuing discussion in which several well-known psychiatrists took part. In the second case, reprinted from the *Psychiatric Quarterly* of 1948, the principal psychological determinants were found to be connected with guilt concerning an abortion induced some eighteen years earlier and with a general feeling of inferiority and uselessness. Treatment resulted in a 'cure' and apparently in a cessation of the phenomena, articles which had been removed by the poltergeist suddenly reappearing in their proper places.

Dr Fodor's very tentatively advanced theory is to the effect that the poltergeist corresponds to 'a fragment of a living personality that has broken free, in some mysterious way, of some of the three-dimensional limitations of the mind of the main personality' (p. 149). It is comparable in some ways to 'psychic lobotomy' and to F. W. H. Myers's theory of 'psychorrhagic diathesis' elaborated to account for the creation of a 'phantasmo-genetic centre' in the percipient's surroundings, except that—following the general trend of psycho-analytic findings—more stress is laid on conflict (often following on shock) resulting in 'an explosive loosening of an infantile part of the psyche, in which severe conflicts are kept repressed' and which expresses both guilt-laden aggression against the self and an aggressive attitude towards others—especially towards some one particular person. This theory is applied in some of its aspects to the Bell Witch, in which the conflict is found to be in the mind of the young Betsy Bell (who was able to murder her father on condition of sacrificing her own first love affair but who subsequently lived till a ripe old age) and to the Mongoose case, in which—perhaps less convincingly—the father, Mr J. T. Irving, rather than his daughter Voirrey, is held to be the *fons et origo* of the disturbance. Betsy Bell's implacable hatred of her father was, it is suggested, though only as a 'pure speculation', based on some early sexual trauma caused by the latter, though apparently the conflict only began to manifest itself acutely at puberty. In describing her condition at this time Dr Fodor suggests (it is not clear upon what evidence) that, in her puritanical surroundings, she suffered from a 'feeling as if the interior of [her] body were being attacked or destroyed' (p. 163). This may have arisen from regressively revived infantile fantasies or memories of rape; but it also, interestingly enough, describes a condition which Melanie Klein in her psycho-analytic studies of young children has described as a very frequent fantasy of such children (relating perhaps primarily to their aggression towards others, especially the mother, but, as a result of introjection, also to themselves) in the earliest pregenital stages of development.

This book admittedly adds little to our existing knowledge of the purely physical side of poltergeist phenomena, but very strikingly does draw attention to the importance of psychological factors which will certainly have to be taken into account in any satisfactory explanation of the astonishing occurrences with which it deals.

J. C. FLUGEL

'Studies in Extrasensory Perception.' By S. David Kahn. (*Proceedings of the American Society for Psychical Research*, Volume XXV, October 1952. \$2.00)

The manufacturers of punched-card machines have in recent years developed a new type of machine which works from pencil marks on special cards and so avoids the necessity for punching holes by hand. This 'mark-sensing' equipment has been used in the experiments reported in Volume XXV of the *Proceedings of the American Society*, in a paper by S. David Kahn.

The percipients were each given a specially printed card with the numbers 1 to 150 on one side and 151 to 300 on the other. Against each number there were five spaces and a pencil mark was to be made in one of these five, with a view to marking the space corresponding to that marked on the target card. The targets had previously been filled in by the experimenters, from a set of random numbers. A total of 177 students took part and some 43,000 guesses were made, but these are aggregate figures for five separate series of experiments, each conducted on different lines and with a different group of percipients.

Certain hypotheses were set up and the experiments were arranged so as to provide material relating to these hypotheses. The first was, 'That ESP can be demonstrated by a methodology which excludes all counter-hypotheses', followed by others relating to the decline effect, distance, freedom of the percipients, their attitude to the experimental situation, and personality ratings. There was no attempt to randomise the different conditions imposed within the set of experiments, but the five separate series were carried out each with a different set of subjects and each with different conditions. This appears to have been partly due to the development of the project during the course of the set of experiments, but as a result the overall efficiency is less than it would have been with unified planning, from a statistical point of view, at the outset.

Taking the five series together, the total score exceeds chance expectation by an amount that would arise on an average once in

1,800 such experiments ($t=3.26$), a result which supports the main hypothesis, and the other hypotheses are tested with reference to the scores in the relevant parts of the experiment.

The decline effect is considered by comparing the scores on the front of each card with those on the back, and it is found that all the net positive deviation in the total scores is on the front of the cards, the total scores on the back being at chance level. The experimenters appreciated, however, that this difference might involve more than the mere decline effect, because of the possible change in the attitude of the subject on turning over; for some 9,400 guesses (one series) the scores for the first and second halves of the front of each card were, therefore, considered, as an alternative measure of decline effects, but in this case there was no evidence of decline. There are however, in an appendix, some preliminary results from a further set of experiments, and the decline between the front and back of the cards is again demonstrated, with a far more striking decline on taking the whole of each card and comparing the results during the first three weeks of that experiment with those during the second three weeks, each percipient having completed a card each week for six weeks.

The effect of distance was allowed for in three of the five series of experiments, in which the targets were at a distance from the percipients. These three series account for about half of the total guesses but for 80% of the total positive deviation, with a probability of one in 10,000 ($t=3.71$).

Comparison between the results obtained with free and rigid conditions suggest that the rigid conditions do not produce ESP results, but the design of the experiments is such that a number of other factors may enter into the differences that are shown between the scores for the two conditions.

The attitudes of the percipients to the experiments were analysed in six different ways, but in no case was there any significant difference between the scores of those with the different attitudes. There were, however, only two series used for this analysis and it may be that little or no ESP effect was present in these series; their overall score was not significant.

A comparison between the percipients, analysed by reference to a personality rating, and their scoring above or below chance, in one series only, is suggestive but does not reach significance.

The possibility of displacement effects is not referred to in the paper, and no allowance is made for any differences between the frequencies with which the percipients marked the five available spaces; extending the analysis to cover these points could only strengthen the overall result. The paper is interesting as an

introduction to the use of mark-sensing in this field, but the facilities offered by the equipment have yet to be fully employed.

A. T. ORAM

THE JOURNAL OF PARAPSYCHOLOGY. Vol. 16, No. 4, December 1952. Durham, N.C., Duke University Press. \$1.50.

In the last article of this number, Professor Warner reports a second survey of opinion as to parapsychological phenomena amongst Fellows of the American Psychological Association. The last similar survey was made in 1938. Little change in the attitude of American psychologists towards paranormal phenomena seems to have taken place during these fourteen years. Those who regard ESP as an impossibility seem, however, to have dropped from $14\frac{1}{2}\%$ to $10\frac{1}{2}\%$, while those who regard it as an established fact or a likely possibility have risen from 9% to $16\frac{1}{2}\%$. Professor Rhine discusses the significance of this result in his Editorial, and draws the moral that the importance of parapsychological research lies in its challenge to the physicalist general working philosophy adopted by most psychologists.

Dr Osis reports an interesting series of experiments on cats to see whether they had ESP ability. Exploratory tests showed significant results, but performances showed a decline so that total scores of the main series were at chance level although significant analyses of the main data are reported. It is difficult to see why this is referred to as an experiment in ESP. Since the human agents wanted the cats to go along the target paths and there seems no reason for supposing that the cats were motivated in any way to do what the agents wanted, it would seem rather to be a PK situation in which the cats took the place of the dice in an ordinary PK experiment.

An article by C. W. K. Mundle on 'Some Philosophical Perspectives for Parapsychology' discusses Flew's B.B.C. Third Programme talks on parapsychology and Price's *Enquiry* paper on the relation between telepathy and psycho-kinesis. His observations and criticisms of both contributions are acute and interesting.

Forwald reports further placement PK experiments in which efforts were made to influence the falls of dice made of certain materials while not influencing other dice. A highly significant proportion of the influenced dice fell into the target area while the remainder showed only chance deviations. It seems to be a defect of Forwald's design that the influenced dice were always of the same material, so there can be no separate assessment of the influence of the experimenter's intention and that of the die

material. This is probably unimportant, since there is no reason for supposing that the material of the dice makes any appreciable difference to P K score.

R. H. THOULESS

JOURNAL OF THE AMERICAN SOCIETY FOR PSYCHICAL RESEARCH.

New York, A.S.P.R., \$1.50.

VOL. 46, No. 4, OCTOBER 1952.

Gardner Murphy, in 'The Natural, the Mystical, and the Paranormal' suggests that the need or urge to establish contact with persons other than ourselves may be a significant common factor in various types of love experiences, mystical experiences, and paranormal occurrences. This paper prompts a letter from Jule Eisenbud, M.D., in the January 1953 issue. Eisenbud asks why Murphy has omitted to consider the emotion of hate, and draws attention to a trend in books and articles 'to relate paranormal behaviour almost exclusively to those impulses and dispositions in man that we hold to be good and laudatory'.

It will be news to many that the Fire Walk has a long history among American Indians. Edmond P. Gibson gives a short account of a few cases from the literature.

Some more spontaneous cases are reported and there is a review by Professor C. J. Ducasse of Mr Tyrrell's *Homo Faber* published in America under the title of *Man the Maker*.

VOL. 47, NO. 1, JANUARY 1953.

The major contribution is a thirty-page article by Hornell Hart, 'The Psychic Fifth Dimension'. The draft of the article was circulated to prominent British and American psychical researchers and revised in the light of their comments which are quoted and referred to, with particular reference to the article by J. R. Smythies in the S.P.R. *Journal*, xxxvi, 447-502.

Readers of the *Journal of Parapsychology* will be familiar with the interesting work of J. G. Pratt on the relation between ESP success and the position of the trial in the run, especially in the data of S. G. Soal. Here Pratt gives a short account of it.

There are three book reviews and the letter from Dr Eisenbud referred to above.

D. P.

CORRESPONDENCE

HUMAN TARGETS FOR ESP EXPERIMENTS

SIR,—In one of the methods used in ESP experiments, a percipient is asked to guess which of five cards is being looked at by an agent. The assumption is that a mental image, or something of the kind, will be transferred from the agent's consciousness to that of the percipient. But in the spontaneous cases, as has been pointed out by Tyrrell and others, this very rarely happens. In almost every case, the percipient's experience conveys no more information than the bare idea of the agent. It is only by showing that such an experience coincides with some remarkable event in the life of the agent—usually accident or sudden death—that we can say that telepathy has taken place.

In an experiment, we cannot arrange for the agent to be drowned or knocked on the head ; but we can arrange that the information required from the percipient is of the same kind as in spontaneous cases. Instead of five cards shown in random order to a single agent, let us have five agents to whom a signal is given in random order. The percipient's task is then to guess which agent is receiving the signal at the moment.

This procedure would have the incidental advantage of quickly discovering good agents. Experiments and spontaneous cases both suggest that agents vary greatly. A test among the five agents would soon pick out the best ones.

It will probably be necessary to isolate the agents from each other, so that they cannot perceive signals intended for others. As to the nature of the signal, a lamp might be used ; but possibly a weak electric shock would be more effective, as being slightly nearer to the type of event which occurs in the spontaneous cases.

G. F. DALTON

Dublin.

'SURVIVAL AND THE IDEA OF "ANOTHER WORLD"'

SIR,—In his paper 'Survival and the Idea of "Another World"' Professor Price makes the statement : 'Mental images, including dream images, are in a space of their own. They do have spatial properties. Visual images, for instance, have extension and shape, and they have spatial relations to one another. But they have no spatial relation to objects in the physical world.'¹ He divides experience into two subsections—sensa of all kinds (including

¹ *Proc. S.P.R.*, 50, 11.

hallucinatory sensa) which are supposed to be extended in the common space of the physical world, and images which are supposed to be extended in another space—a space of their own—which space has *no spatial relation whatever* with the former space.

Let us examine this matter more closely, for I am sure that if we do we will find that Professor Price's position is untenable: he has made his division into the two worlds at the wrong place. Sensa themselves seem to belong to two very different systems: the commonplace sensory fields of everyday experience, and the family of sense fields represented by the mescaline phenomena and hypnagogic imagery. The latter are certainly composed of sensa, and are extended in space, which space equally certainly cannot be the same space as that of the common physical world. We must surely identify the space occupied by ordinary imagery with that occupied by the mescal visions. Schilder¹ has shown that the spontaneous behaviour of ordinary imagery shows certain regular features (unwilled changes of shape and size, fragmentation, and spontaneous movement) which are also to be found in eidetic, hypnagogic, and mescal imagery; this suggests a common origin.

Now mescal imagery may appear when the eyes are closed in the darkness of the visual field, but the images may also appear apparently intruding into the everyday visual field; that is, they are literally spatially located in this field just like any other object² in the field. Suppose that you are under the influence of mescal. If you shut your eyes you will be immediately aware of the spatially extended mescal imagery, which is undoubtedly extended in 'private' space. Now if you open your eyes all this changes. You will now be aware of the visual field—probably somewhat changed, it is true, but still recognizably your own visual field extended, according to Professor Price's theory, in a space so different from the former space that no spatial relation can be expressed between them. Shut your eyes and you are in one space—open them and you are in another! There is, however, one common factor in these two situations which Professor Price does not mention: there is one spatially extended object common to both—the somatic sensory field (or the perceived body; Schilder's 'body-image'—as he says, 'The image of the body extends in space.'³). The phenomenon of synaesthesia makes it unlikely that there is any fundamental difference between the space systems of the various sense fields. Very primitive sense perception (as is experienced by

¹ Paul Schilder, *Mind, Perception and Thought* (New York, Columbia University Press, 1942).

² I take an 'object' here merely to mean a collection of sensa.

³ Schilder, *loc. cit.*, p. 189.

congenitally blind people who have had their vision restored by operation) has many features which makes it more similar to imagery than to ordinary sense perception. In these cases the latter is not attained for several months. The relation between visual after-images and the (non-sensory) mescal visions is well known; the former can be observed turning into the latter, and the latter can leave the former. There is thus no clear natural division between *sensa* and images. They must be different states of some one underlying substance.

Surely, then, it is simpler to suggest that the conscious mind is the unified whole it appears to be and consists of an unextended observer (Self or Witness) immediately aware of sense fields and the imagery field; that this unit comprises the whole of the private space of the individual; and that the common space of the physical world lies wholly *outside* experience though connected to it by signalling mechanism. The relation between public space and the private spaces can thus be defined and not left indefinable or meaningless. The definition may be that together they form a single 'n'-dimensional manifold. Thus the causal chain seemingly demanded by neurology between the physical and experiential worlds may be completed (by postulating the signalling mechanisms of the psyche). Under Professor Price's theory this chain cannot be simply completed.

Thus the private space of the individual which, according to Professor Price contains only dream and non-hallucinatory images, must contain the spatially extended sense fields and hallucinatory imagery as well. *Direct spatio-temporal continuity may be observed between sensory after-images and non-sensory mescal images.* This one observation (which I have made myself) is surely enough to disprove Professor Price's theory?

The suggestion that the space of sense fields is a different space from the space of the common physical world has been made by Russell: 'All this, I say, has long been a commonplace, but it has had a consequence that has not been adequately recognised, namely that the space in which the physical table is located must also be different from the space that we know by experience.'¹ He never defines, however, the exact nature of this difference. Broad has extended this a little further: 'For reasons already stated, it is impossible that *sensa* should literally occupy places in scientific space, though it may not, of course, be impossible to construct a space-like whole of more than three dimensions, in which *sensa* of all kinds, and scientific objects, literally have places. If so, I

¹ Bertrand Russell, *Human Knowledge : its scope and limits* (London, Allen & Unwin, 1948), p. 238.

suppose that Scientific Space would be one kind of a section of such a quasi-space, and e.g., a visual field would be another kind of section of the same quasi-space.¹ Any such 'whole' of more than three dimensions need not, however, be described as 'space-like' or as a 'quasi space' but is merely a geometrical space of more than three dimensions.

To suggest that each individual human conscious mind consists of sense fields extended in one space and imagery fields extended in quite another space with no relation between them seems to me to be contrary to experience and to destroy the functional and structural unity of the individual mind. It is both simpler and more in accordance with the nature of experience and the facts of neurology and psychopathology to postulate that sensa and images of all kinds are made of the same fundamental stuff and are extended in the same set of three space dimensions.

Let me give one last example. If the temporal lobe cortex of the brain is stimulated electrically in certain cases when the subject is awake, he will report that he is having a dream ; that is, while he is still aware of the ordinary sensa of his waking visual field, he is also aware of dream images and can direct his attention from one to the other. I do not think that this would be possible if things really were as Professor Price suggests. I think his mistake lies in supposing that we only dream when we are asleep ; then indeed the two worlds seem immeasurably apart. But we may dream when we are awake and the two worlds may be experienced together.

J. R. SMYTHIES

Weyburn, Saskatchewan.

[Professor Price hopes to reply in a later issue to the points raised here by Dr Smythies and in the March issue of the *Journal* by Mr Flew.—Ed.]

ESP ABILITY AND HORMONE TREATMENT

SIR,—During the past seventy-five years much attention has been paid to the existence of extra-sensory perception but one aspect of this has apparently been overlooked, namely, the possibility that ESP ability might be increased or elicited by means of hormone treatment.

From the thousands of tests made at the Duke Parapsychology Laboratory it appears that there is no great difference in extra-

¹ C. D. Broad, *Scientific Thought* (London, Routledge & Kegan Paul, 1923), pp. 392-3.

sensory perception according to age, sex, or education. However, if we start with the assumption that there may be a difference, depending upon the sex, we find ourselves confronted with an interesting problem and hypothesis. It is an accepted fact that the majority of the commercial palm-readers, fortune-tellers, and professional mind-readers are of the female sex. In addition, all members of the so-called weaker sex pride themselves on what they call feminine intuition, which, according to the experiments of Arvo Lehtovaara¹ in Finland, is fairly well established as a fact.

We know that the autonomic nervous system affects the output of hormones in both the male and the female. Conversely, it is quite probable that the amount and type of hormones will affect the nervous system. A point of departure could very well be the adrenal medulla, since adrenocortical insufficiency involves the nervous system and past experiments performed upon animals show that those which have been adrenalectomized become fatigued much less easily and exert little mental or muscular effort.

In the human being a diagram of the nervous systems of the male and female will show little difference. There is some variation in the size of some glands, such as the adrenals, yet actually there is a great difference between testosterone and estrone, progesterone and gynogens. An androgen, such as a testosterone, when obtained from the testis of the male or when manufactured synthetically, will modify the genetic female, giving her male tendencies and reactions. Estrogens which have been injected into genetic males have clearly feminized the male gonad. Therefore, it seems probable that, in experiments with persons who have demonstrated the possession of paragnostic perception, a discreet use of such hormones might give concrete results.

If mental stimulation, such as desire to score well and from competition, accelerates and increases perceptive ability, which has been proved, it is possible that sympathetic stimulation of the autonomic nervous system will produce the same result. Once this is established, attention could be turned to hormone experiments. The sympathetic nervous system, based in the thoraco-lumbar regions, has apparently the same function as that of the hormone of the adrenal medulla. They exert similar physiological effects. When the adrenal medulla is eliminated, as has been done in experimental operations, the sympathetic nervous system takes over its functions. Therefore, it seems reasonable to suppose that excitation of the adrenal medulla of persons endowed with an appreciable amount of paragnostic perception may increase this

¹ Arvo Lehtovaara, 'First Impressions'. *Studia Psychologica et Paedagogica II* (Lund : Hakan Ohlssons Boktryckeri, 1948), pp. 123-52.

perceptive ability, even to the point where it could be called into service at will.

Again, if by such experimentation it was found that there is a measurable and appreciable difference between the psychic powers of men and women, injections of androgens and estrogens, as desired, might be tried on individuals apparently possessing little or no extra-sensory perceptive ability in order to develop or inculcate this quality.

THEODORE TOULON BECK

University of Georgia.

CHAIR OF PARAPSYCHOLOGY IN THE UNIVERSITY OF UTRECHT

Evidence of the recognition of parapsychology as a field for academic study is given by the appointment in March of Dr W. H. C. Tenhaeff as Professor of Parapsychology in the University of Utrecht. This University, which is a government institution, is the first in the world to establish a Chair exclusively devoted to the teaching of parapsychology.

Dr Tenhaeff was Secretary of the Dutch Society for Psychical Research from 1930 to 1938, and has been a member of its Council since 1945. He was for many years Graduate Assistant to Professor Roels in the Department of Psychology at the University of Utrecht, and was at the same time *privat-dozent* in parapsychology.

THE PARAPSYCHOLOGY FOUNDATION

THE Parapsychology Foundation, 11 East 44 Street, New York 17, N.Y., was founded by Mrs Eileen J. Garrett with the object of encouraging the 'free and impartial scrutiny of a group of psychological activities frequently described as "psychic phenomena"'. The ways in which the Foundation fulfils its objects include the granting of technical and financial assistance for research, the organization of Forums for the discussion of current developments, the publication of occasional papers and reports and the re-ssuue of major works in the field of psychical research, and the donation to foreign societies and specialized libraries of works published in

the United States. Since the Foundation started work in January 1952, its projects have included scholarships or grants for research at the Parapsychology Laboratory, Duke University ; the Round Table Foundation, Glen Cove, Maine ; the University of Manitoba (Department of Physiology) ; the University College of the West Indies (Institute of Social and Economic Research) ; the University of Innsbruck (the Department of Psychiatry and the Psychiatric Clinic) ; the University of Freiburg (Institut für Grenzgebiete der Psychologie und Psychohygiene) ; and the University of Utrecht. The President of the Foundation is Mrs Eileen Garrett, and the Executive Director Dr Michel Pobers.

INTERNATIONAL CONFERENCE OF
PARAPSYCHOLOGICAL STUDIES

The most outstanding project initiated by the Foundation is the International Conference of Parapsychological Studies, which it is proposed to hold in Utrecht at the end of July and the beginning of August 1953. The Conference, which will be held in private, will bring together workers in parapsychology from many countries including Denmark, Germany, Italy, the Netherlands, Sweden, Switzerland, the United Kingdom, and the United States. The Chairman of the Conference will be Professor Gardner Murphy, Director of Research at the Menninger Clinic, Topeka, Kansas, who was President of the S.P.R. for 1949-50.

Since the end of the war, parapsychology has been severely hampered, largely owing to currency restrictions, by the lack of personal contact between individual workers and between the officers of the various societies engaged in it. All who have its advancement at heart owe a debt of gratitude to Mrs Garrett for making the Conference possible.

An account of the Conference will be given in a later issue of the *Journal*.

PRINTED IN GREAT BRITAIN
BY ROBERT MACLEHOSE AND CO. LTD.
THE UNIVERSITY PRESS, GLASGOW